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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,120	06/07/2005	Michael S Griffith	540-566	1990
23117 7590 09/20/2007 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			EXAMINER SHAFFER, RICKY D	
			ART UNIT 2872	PAPER NUMBER
			MAIL DATE 09/20/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/538,120

Applicant(s)

GRIFFITH

Examiner

Ricky D. Shafer

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 06/07/2005.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

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1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification, as originally filed, does not provide support for the language a supporting surface for "passively supporting" a deformable mirror.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 4, the use of the language "a deformable mirror" is vague, indefinite and/or confusing" It is unclear to the examiner whether the above mentioned language is referring to the deformable mirror, recited in claim 1, line 2, or to another deformable mirror.

In claim 2, line 3, the use of the language "a supporting surface" is vague, indefinite and/or confusing" It is unclear to the examiner whether the above mentioned language is referring to the supporting surface, recited in claim 1, line 4 or to another supporting surface.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 3-6 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Merz et al ('688).

To the extent the claims are definite and supported by the originally specification, Merz et al discloses a deformable-mirror holder comprising a body (2) with a central aperture for receiving a deformable mirror (10), see column 1, lines 54-60, column 2, line 67 to column 3, line 4 and claim 1, the central aperture being defined by a plurality of flexible beams (3, 4, 5), see Fig. 1, with each flexible beam having an end shaped to provide a supporting surface (6) for passively supporting the deformable mirror, and a flexible portion (4) that links the end of the beam to the body of the holder, wherein the ends of the beams lie in a plane of the body of the holder, wherein at least one beam (3, 5) is generally L-shaped such that one leg of the L-shape provides the flexible portion and the other leg of the L-shape provides the supporting surface of the end of the beam, wherein the internal corner of the L-shaped beam has a shoulder that extends part of the way along both legs of the L-shape, see Fig. 2, and wherein the plurality of flexible beams are arranged around the entire aperture, see Fig. 1. Note figures 1 and 2 along with the associated description thereof.

7. Claims 1-6 and 9-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Gaber et al ('823).

To the extent the claims are definite and supported by the originally specification, Gaber

et al discloses a deformable-mirror holder comprising a body (5) with a central aperture for receiving a deformable mirror (1), see column 1, lines 1-7, the central aperture being defined by a plurality of flexible beams (2), see figures 1, 2, 5 and 6, with each flexible beam having an end shaped to provide a supporting surface, see figures 2 and 6, for passively supporting the deformable mirror, and a flexible portion (the portion between element 2 and 4, shown in Fig. 1 or the piezoelectric elements, shown in Fig. 7) that links the end of the beam to the body of the holder, wherein the ends of the flexible beams are co-joined to form a unitary structure shaped to provide the supporting surface, see figures 1 and 5, wherein the ends of the beams lie in a plane of the body of the holder, see figures 1, 2, 5 and 6, wherein at least one beam (2) is generally L-shaped such that one leg of the L-shape provides the flexible portion and the other leg of the L-shape provides the supporting surface of the end of the beam, see figures 2 and 6, wherein the internal corner of the L-shaped beam has a shoulder that extends part of the way along both legs of the L-shape, see figures 2 and 6, wherein the plurality of flexible beams are arranged around the entire aperture, see figures 2 and 6, wherein the peripheral edge of the mirror is supported from below by one leg of the L-shaped beam and is supported from the side by the other leg of the L-shaped beam or an inwardly-facing side of the shoulder. Note figures 1, 2 and 5-7 along with the associated description thereof.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merz et al ('688) or Gaber et al ('823).

Merz et al and Gaber et al discloses all of the subject matter claimed, note the above explanation, except for explicitly stating that the width of the beams is larger than the separation between beams, i.e., the width of the beams being four times larger than the separation between beams.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the size of the widths of the beams of Merz et al or Gaber et al to be larger than the separation between beams in order to increase the degree of stiffness desired, since such a modification would have involved a mere change in the size of the component. A change in size is generally recognized as being within the level of ordinary skill in the art. Note: In re Rose, 105, USPQ 237 (CCPA 1955)

10. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merz et al ('688).

Merz et al discloses all of the subject matter claimed, note the above explanation, except for explicitly stating that the peripheral edge of the mirror is supported from below by one leg of the L-shaped beam and is supported from the side by the other leg of the L-shaped beam or an inwardly-facing side of the shoulder.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shape of the support surface (6) of Merz et al to include a planar L-shape configuration, as commonly used and employed in the art, in order to accommodate/conform to a mirror, since such a modification would have involved a mere

change in the shape of the component. A change in shape is generally recognized as being within the level of ordinary skill in the art. Note: In re Dailey et al, 149 USPQ 47.

11. Claim 9 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 9 fails to further limit claim 1 due to the fact that a deformable mirror and a deformable mirror holder are already positive recited in claim 1.

12. Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

13. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: reference numeral 86, disclosed on page 8 of the specification, has not been properly labeled/shown. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be

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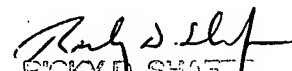
labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ricky D. Shafer whose telephone number is (571) 272-2320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RDS

September 16, 2007


RICKY D. SHAFER
PATENT EXAMINER
ART UNIT 2872